

A Rare Co-Occurrence of Hidradenocarcinoma and Squamous Cell Carcinoma on the Left Posterior Calf Treated with Mohs Micrographic Surgery

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Introduction

- Hidradenocarcinoma is a rare malignant tumor of the eccrine sweat glands, accounting for approximately 6% of eccrine tumors and only 0.001% of all tumors.
- These tumors can be aggressive, with a high likelihood of metastasizing to distant sites. The current 10-year overall survival rate is estimated to be 60.2%.
- Under histological evaluation, the tumor appears as a nodular, dermally based mass that can infiltrate the dermis and subcutaneous fat.
- The individual cells can have a basaloid appearance, eosinophilic cytoplasm or a transparent washed-out cytoplasm.
- Due to its rarity, hidradenocarcinoma has no established treatment guidelines.
- Most recommendations suggest wide local excision as the primary treatment option.
- In the right clinical setting, Mohs micrographic surgery (MMS) could be considered as a treatment option.
- In the following case, hidradenocarcinoma with squamous cell carcinoma in situ (SCCIS) is successfully treated with MMS.

Case Description

- A 68-year-old female presented for Mohs surgery of a biopsy-proven SCCIS. Upon examination, pigmented nodules adjacent to the prior biopsy site were noted (Figure 1).
- The patient was assigned a Mohs appropriate use criteria (MAUC) score of 6, indicating that additional information and physician judgement were required to determine if Mohs surgery was appropriate.
- Given the size of the lesion and the nodular appearance, it was decided to proceed with Mohs surgery.
- Due to the presence of the two pigmented nodules, the lesion was debulked and processed for evaluation along with the first Mohs layer (Figure 2).
- Following histological evaluation of the Mohs slides, the 1st layer revealed a dermal mass consisting of of monomorphic, basaloid cells (Figure 3 & 4).
- Due to the unexpected histology, Mohs surgery was paused, and the specimen was submitted for permanent sectioning and dermatopathological evaluation.
- The pathology resulted as hidradenocarcinoma, since the histology of the tumor was easily recognizable to the surgeon, Mohs surgery was continued.
- A margin of 0.5 cm was taken around the initial surgical site; under histological evaluation, the tissue margins were clear and showed no evidence of residual tumor (Figure 5).
- Surgical repair was performed using a purse string intermediate closure suture due to the inelasticity of the skin; the final wound length was 3.5 cm (Figure 6).
- The patient underwent ultrasound imaging of her inguinal lymph nodes to rule out regional metastasis, which demonstrated no abnormal findings.

Surgical and Histological Images

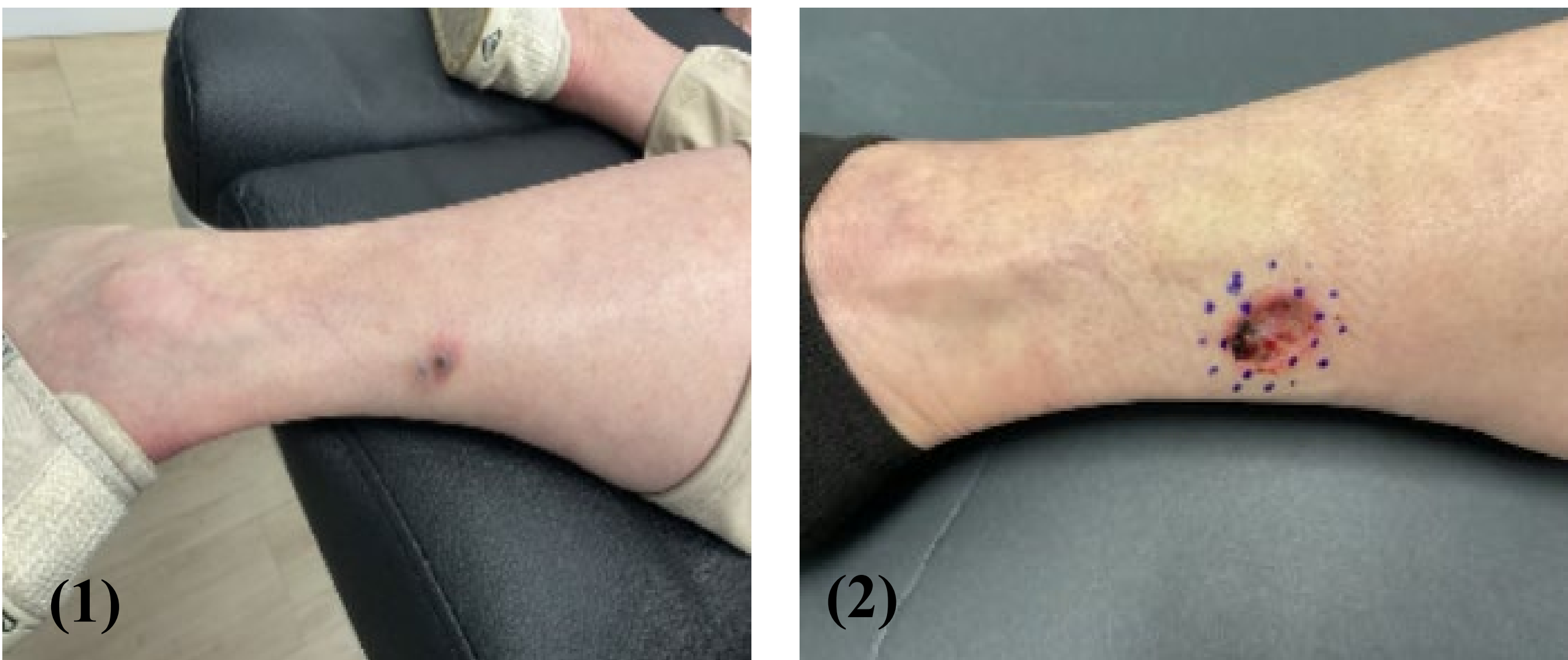
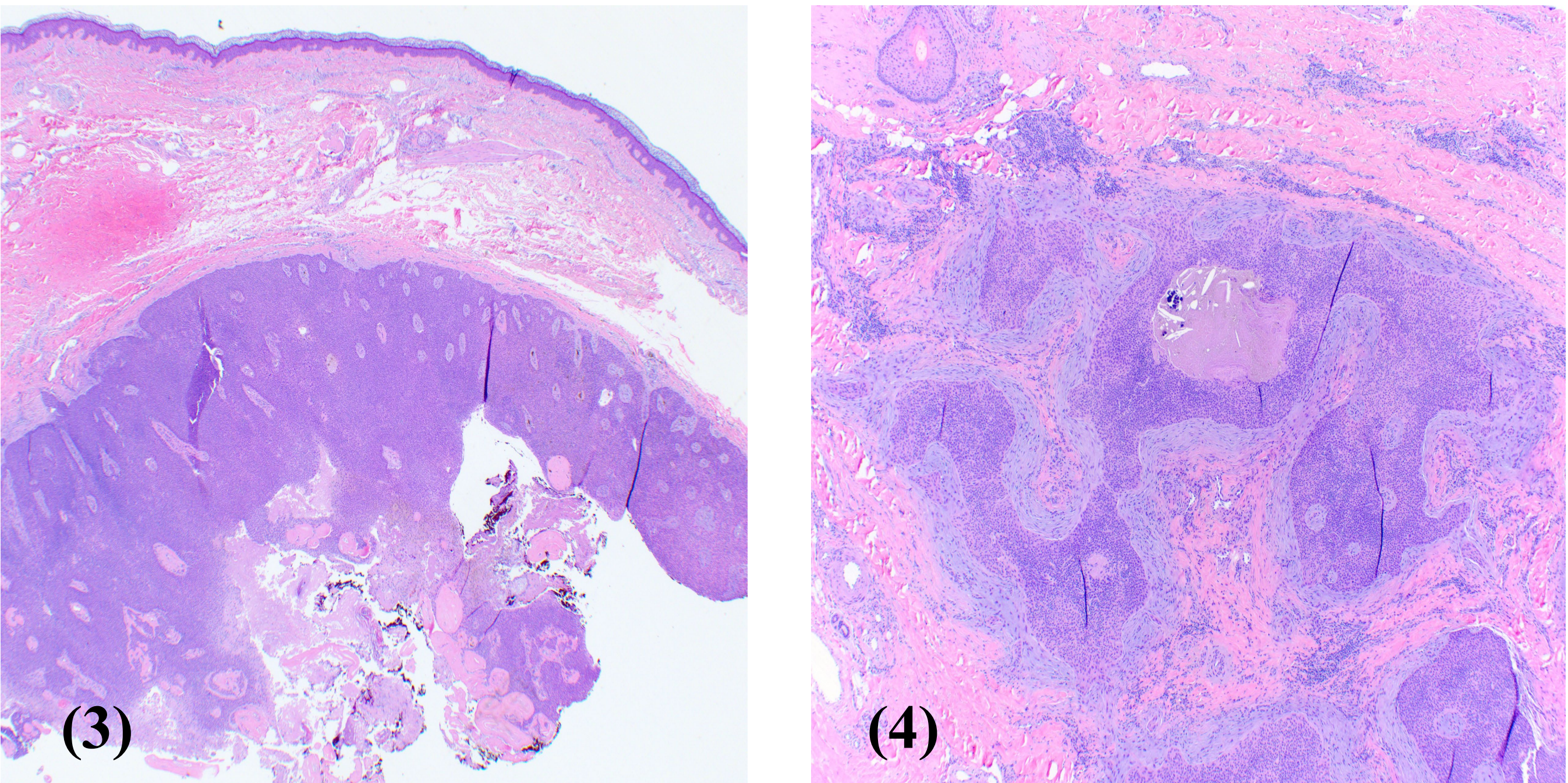
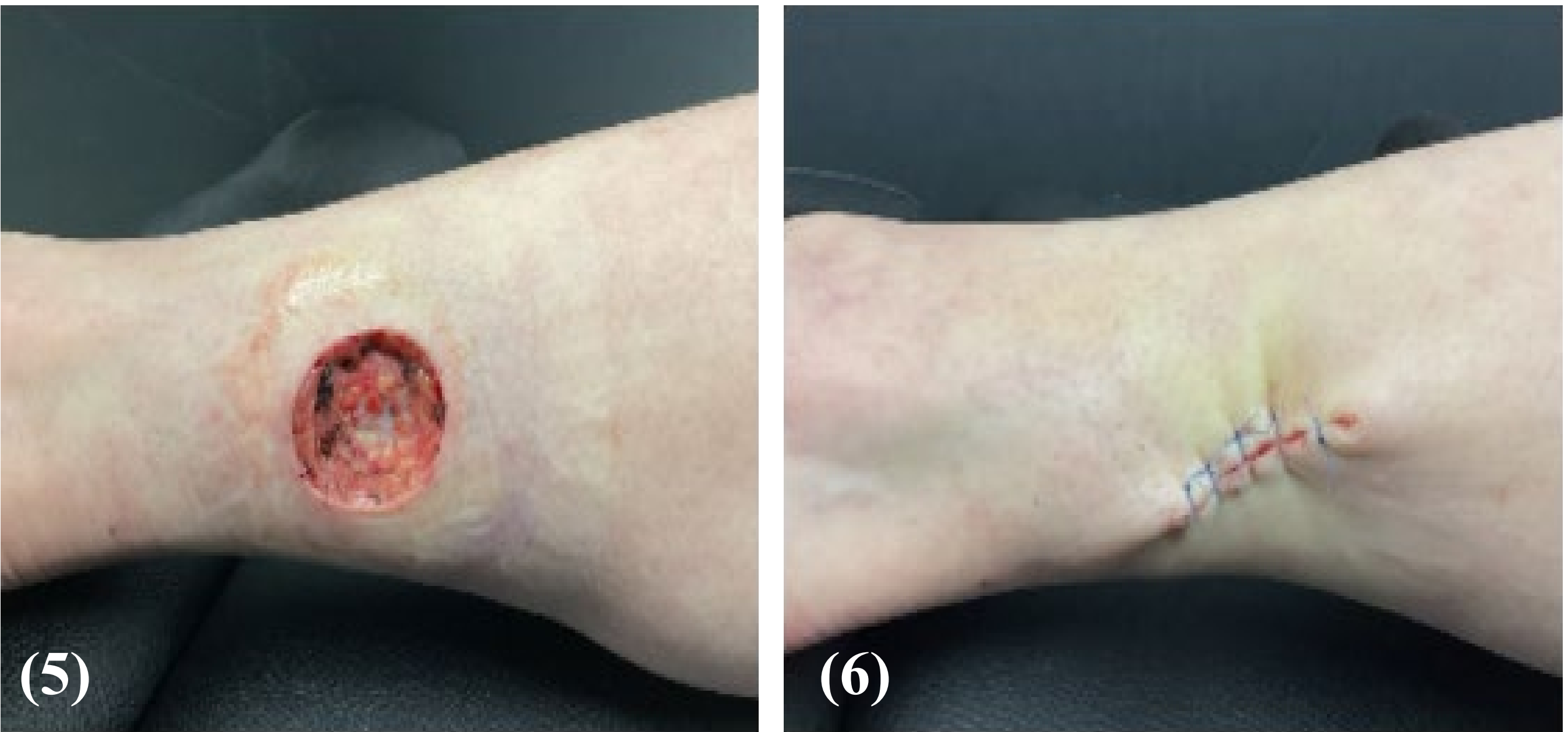


Figure 1: Pre-operative 1.7 x 1.0 cm lesion on the lower left posterior calf. Figure 2: Post-operative excision site with a diameter of 1.9 cm x 1.2 cm and margins of 0.1 cm.



Figures 3 & 4: Sections show a dermal basaloid neoplasm with ductal differentiation, mucin production, and thickened hyalinized basement membrane material. Some parts of the tumor are cytologically atypical, glassy and have nuclear pleomorphism. Melanin pigment is scattered throughout the neoplasm.



Figures 5: Final Mohs surgery site with a defect size of 3.5 x 3.0 cm. Figure 6: Wound site after purse string intermediate suture, with a final length of 3.5 cm.

Discussion

- Hidradenocarcinoma is a malignant cutaneous neoplasm derived from eccrine sweat glands.
- Malignant sweat gland tumors are challenging to diagnose due to the morphologic overlap with other benign neoplasms.
- The incidence is similar between men and women and is most commonly diagnosed in patients between the ages of 50 and 70.
- Most patients remain asymptomatic other than general pain, occasional bleeding, and discomfort from the site of the lesion.
- The tumor can metastasize, primarily involving regional lymph nodes, bones, and the skin.
- Literature is limited, but this tumor has an estimated recurrence rate of 60% and a 50% metastasis rate.
- Our case demonstrates a rare co-occurrence of hidradenocarcinoma adjacent to biopsy-proven SCCIS.
- Due to their aggressive nature, hidradenocarcinomas require timely diagnosis and treatment.
- Though the tumor is rare, Mohs surgery could be considered as primary treatment due to the tumor's recognizability on frozen sections and lack of need for special stains.
- A debulk section or review of initial biopsy slides could be useful to review in preparation for Mohs surgery.
- Further studies are needed to establish efficacy of Mohs in these rare cases.
- This case adds to the limited existing literature and support Mohs surgery as a possible effective treatment option for hidradenocarcinoma.

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